

REMARKS

Claims 1 through 14 continue to be in the case.

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U. S. C. 119 (a)-(d). The certified copy has been filed in parent Application No. PCT/EP00/02889, filed on March 31, 2000.

Applicant gratefully acknowledges the receipt by the United States Patent and Trademark Office of the priority documents. Applicant relies on this receipt in his claim to priority.

2. The information disclosure statement filed January 30, 2002 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. Thus copies of the WIPO and German references should be submitted. The information disclosure statement has been placed in the application file, but the information referred to therein has not been considered,

Applicant is submitting copies of the WIPO and German references.

3. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

A new title is proposed as follows:

Safety Barrier for Limiting the Current and Voltage of an Electrical
Consumer Connected Downstream

4. The drawings stand objected to because in figures 1-5 box 15 is not shown or labeled as to its use or purpose. Additionally the lines leading to box 15 should be solid instead of dashed.

Figs. 1 to 5 are being changed in accordance with the kind suggestions of the Examiner.

The drawings stand objected to because in figures 1 and 2 fuse F1 is illustrated utilizing a symbol remarkably like the symbol utilized to illustrate resistors RI-R7. It is suggested that fuse F1 be illustrated with a symbol that resembles a single cycle of a sinusoidal waveform () and that resistors RI-R7 be illustrated with a symbol that resembles a triangular wave form ().

Figs. 1 to 5 are being changed in accordance with the kind suggestions of the Examiner.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

The proposed drawing correction will be submitted promptly.

5. The drawings stand objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a reset device as recited by claim 12 must be shown or the feature canceled from the claim.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance. No new matter should be entered.

An additional Fig. 8 based on Fig. 3 is submitted showing a reset device.

6. Claims 1-14 stand objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-14 are vague and confusing because of excessive extraneous matter such as ", for example of a measurement value transmitter, " in lines 2-3 of claim 1, ", for example a ground line, " in lines 5-6 of claim 1, ", such as a Zener barrier" in line 7 of claim 1, ", which further protective circuit (20) is" in line 11 of claim 1, "in the further protective circuit (20) in lines 3-4 of claim 5, "parallel to the gate (G) and to the source (S) of the

switching and/or regulating transistor (Q1)" in lines 4-5 of claim 7, and ", for example a key," in lines 2-3 of claim 12.

Applicant is making corrections a kindly suggested by the Examiner. However, the language "'in the further protective circuit (20) in lines 3-4 of claim 5," could not be found in claim 5.

Claims 1-14 are vague and confusing because in lines 6-7 of claim 1 a "voltage and current limiting device" is set forth which could easily be confused with the "voltage limiting device" set forth in lines 8-9 of claim 1 and the "current limiting device" set forth in line 9 of claim 1. It is suggested that the "voltage limiting device" instead be set forth as something like the --voltage limiter means-- and that the "current limiting device" instead be set forth as something like the --current limiter means--.

Applicant is making corresponding corrections in the present amendment.

Claims 1-14 are. vague and confusing because in line 9 of claim 1 "referring" should be something like --referenced--.

Applicant is making corresponding corrections in the present amendment.

Claims 1-14 are vague and confusing because in line 12 of claim 1 "in front" should be --upstream--.

Applicant is making corresponding corrections in the present amendment.

Claims 1-14 are vague and confusing because throughout the claims improper alternative language is utilized. For example in line 14 of claim 1 (and throughout the rest of the claims) "a switching and/or regulating transistor" is recited (the language of line 3 of claim 5 is however preferred), in lines 29-31 of claim 1 "voltage detection, or a longitudinal resistor" is recited, in line 2 of claim 3 "a Zener diode or Diac diode" is recited, in lines 2-3 of claim 4 "the feedback resistor or the control and regulating circuit" is recited, in lines 2-3 of claim 6 "the reference voltage or, respectively, the feedback voltage" is recited, in line 2 of claim 10 "a control or regulating circuit" is recited, in lines 3-4 of claim 10 "the output voltage or, respectively, of the supply voltage" is recited, in lines 2-3 of claim 13 "an electronic relay or field effect transistor or a thyristor" is recited, and in lines 1-3 of claim 14 "a bipolar transistor or an electronic relay" is recited.

Applicant is making corresponding corrections in the present amendment.

Claims 1-14 are vague and confusing because in line 23 of claim 1 "the voltage" lacks proper antecedent basis..

Applicant is making corresponding corrections in the present amendment.

Claims 1-14 are vague and confusing because in line 25 of claim 1 "between the outputs" should be --from the output--.

Applicant is making corresponding corrections in the present amendment.

Claims 1-14 are vague and confusing because lines 26-27 of claim 1 make little to no sense at all.

Applicant is canceling the objectionable language in the present amendment.

Claims 3-14 are vague and confusing because throughout claims 3-14 Zener diodes are recited without any attempt to differentiate them. It is suggested that in each chain of dependency terminology something like --a first Zener diode--, --a second Zener diode--, etc. be utilized.

Applicant is making corresponding corrections in the present amendment.

Claims 4, 6-9, and 12 are vague and confusing because in lines 2-3 of claim 4 "the control and regulating circuit" lacks proper antecedent basis.

Applicant is making corresponding corrections in the present amendment.

Claims 6-9 and 12 are incorrect and improper since they are multiple dependent claims that depend from other multiple dependent claims. Claim 9 is additionally incorrect and improper since multiple dependent claims may only alternatively depend from other preceding claims (--according to claim 7 or 8-- is correct while "according to claim 7 and 8" or "according to claim 7 and/or 8" are incorrect).

Applicant is making corresponding corrections to the claim dependency in the present amendment.

Claims 6-9 and 12 are vague and confusing because in lines 2 and 6 of claim 6 "the reference voltage", in lines 2-3 and 7 of claim 6 "the feedback voltage", and in line 6 of claim 6 "the line points 9 and 16" all lack proper antecedent basis.

Applicant is making corresponding corrections in the present amendment.

It should be noted that upon allowance all reference characters in parenthesis in the claims must be deleted. Having said that in line 2 of claim

9 "D2 and/or D4" should either be put inside parenthesis or simply deleted early.

Applicant is putting all reference characters inside parentheses in the present amendment.

Appropriate correction of all of the above is required.

Applicant is endeavoring to make all necessary corrections.

7. Claims 1-14 would be allowable if rewritten or amended to overcome the objections set forth above in this Office action. It should be noted that this statement is predicated on the best understanding of the claimed invention as recited by the objected claims. Upon clarifying the claim language by the required correcting amendments, the allowability of the claims may have to be reevaluated if a different invention emerges from the corrected claims that differs from that apparently set forth by the current claims.

Applicant sincerely appreciates the indication of allowability of claims 1 through 14 after formal corrections have been performed.

Applicants submit that the prior art made of record neither anticipates nor renders obvious the present invention.

Reconsideration of all outstanding rejections is respectfully requested.

All claims as presently submitted are deemed to be in form for allowance and an early notice of allowance is earnestly solicited.

Respectfully submitted,

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MARKED UP VERSION OF THE AMENDED CLAIMS

(Version with marking to show changes made)

1. Safety device (19) for limiting of current and voltage of an electrical consumer (15) connected downstream to the safety device (19) [, for example of a measurement value transmitter,] with at least one input connector (8) and one output connector (16) as well as input connector and output connector (10, 17) of a common line (12) [, for example a ground line,] wherein the safety device (19) includes at least voltage and current limiting device (7,13, 14) [, such as a Zener barrier] and comprising at least one protective device (F 1) as a fusible fuse, a voltage [limiting] limiter device (D3) [referring] referenced to the common line (12), a current [limiting] limiter device (R6) connected to the output of the voltage [limiting] limiter device (D3) as well as a [further] protective circuit (20), which [further] protective circuit (20) is disposed [in front of] upstream the voltage and current limiting device (7,13, 14), wherein the [further] protective circuit (20) exhibits a field effect transistor (Q1) as a switching [and/or] and regulating transistor, wherein the source drain leg (S-D) of the field effect transistor (Q1) is disposed between the input connector (8) and the voltage and current limiting device (7,13, 14) and wherein the gate (G) is connected to the common line (12) through a resistor (R4) for feeding in the control voltage of the field effect transistor (Q 1), wherein a second transistor (Q2) is connected to the input connector (8) and to the gate (G) of the switching [and/or] and regulating transistor (Q 1), wherein the collector (Q23) is connected to the gate (G) of the switching

~~[and/or] and regulating transistor (Q 1) for influencing the control voltage of the switching [and/or] and regulating transistor (Q 1), and wherein [the] a voltage (U9,11) is fed back to the base (Q22) of the second transistor (Q2) over a feedback resistor (R3) [between] from the [outputs] output (9,11) of the [further] protective circuit (20) [and after the switching and/or regulating transistor (Q1) and after the drain (D) of the switching and/or regulating transistor (Q 1)], wherein a voltage sensor circuit (D1,RS) is disposed between the base (Q22) of the second transistor (Q2) and the common line (12) for voltage detection, [or a longitudinal resistor (RI) as a current sensor is disposed between the input connector (8) and the source (S) of the switching [and/or] and regulating transistor (Q 1) for current capturing].~~

3. (amended) Safety device (19) according to claim 1 or 2 characterized in that the voltage sensor circuit (D1,R5) comprises a [Zener] first diode [or Diac diode] (D1) and a resistor (R5) connected in series.

4. (amended) Safety device (19) according to claim 1 characterized in that the feedback current is adjusted by way of the feedback resistor (R3) [or the control and regulating circuit] such that in case of over load there results a regulating down of the load current to a minimum value and a switching off of the current in the voltage and current limiting device (7,13, 14) is performed only upon application of a voltage (U8-10) larger than the input nominal voltage (UEN) and wherein an automatic switching on again is given upon following lowering of the supply voltage (UE) to the input nominal voltage WEN).

~~5. (amended) Safety device (19) according to claim 1 characterized in that a resistor (R2) is disposed between the base (Q22) of the transistor (Q2) and the source (S) of the switching and regulating transistor (Q 1) in the further protective circuit (20) for reducing the feedback current.~~

6. (amended) Safety device (19) according to [one of the preceding claims] claim 1 or 2, characterized in that [the reference voltage or, respectively, the] a feedback voltage (U9-11;UA) of the feedback resistor (R3) is tappable both immediately after the drain (D) of the switching [and/or] and regulating transistor (Q 1) as well as at any arbitrary circuit point of the current path between [the] line points [9 and 16] (9, 16) and that the [reference voltage or, respectively, the] feedback voltage (U9-11;UA) of the feedback resistor (R3) is fed back to the base (Q22) of the second transistor (Q2).

7. (amended) Safety device (19) according to [one of the preceding claims] claim 1 or 2 characterized in that a second Zener diode (D2) is disposed between the gate (G) and the source (S) of the switching [and/or] and regulating transistor (Q 1) parallel to the gate (G) and to the source (S) of the switching [and/or] and regulating transistor (Q 1) for protecting the gate source leg (G-S).

~~8. (amended) Safety device (19) according to [one of the preceding claims] claim 1 or 2 characterized in that a fourth Zener diode (D4) is~~

~~connected in series with the resistor (R4) for reducing the gate control voltage of the switching [and/or] and regulating transistor (Q1).~~

~~9. (amended) Safety device (19) according to [claims] claim 7 [and/or 8] characterized in that the second Zener [diodes] diode [D2] (D2) [and/or D4] and a fourth Zener diode (D4) are integral components of the switching [and/or] and regulating transistor (Q1).~~

10. (amended) Safety device (19) according to claim 1 characterized in that the feedback resistor (R3) is replaced by a control [or regulating] circuit for adjusting the feedback current independent of the output voltage and [or, respectively,] of the supply voltage.

11. (amended) Safety device (19) according to claim 10 characterized in that the control [or regulating] circuit is a constant current circuit.

12. (amended) Safety device (19) according to [one of the preceding claims] claim 1 or 2 characterized in that the safety device (19) includes a reset device, [for example a key,] for switching on again in the [further] protective circuit (20) after triggering of the switching off of the current in the voltage and current limiting device (7,13, 14).

13. (amended) Safety device (19) according to claim 1 characterized in that the second transistor (Q2) is [an electronic relay or] a field effect transistor [or a thyristor].

14. (amended) Safety device (19) according to claim 1 characterized in that a bipolar transistor [or an electronic relay] are employed instead of the field effect transistor.